



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,531	11/06/2001	Kevin B. Todd	DKT00151	9261

7590 05/10/2005

BORGWARNER INC.
PATENT ADMINISTRATOR
3850 HAMLIN ROAD
AUBURN HILLS, MI 48326

EXAMINER

VAN PELT, BRADLEY J

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/993,531	Applicant(s) TODD, KEVIN B.	
	Examiner Bradley J Van Pelt	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 32-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 20-29 and 31 is/are rejected.
- 7) ☒ Claim(s) 9, 19 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/28/05</u></p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____</p> |
|---|--|

DETAILED ACTION

Election/Restrictions

1. Claims 32-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 28, 2003. Note that non-elected embodiment II, Fig. 8 illustrates the claimed pitch radii of claims 33-48.

Claim Objections

2. Claim 7 is objected to because of the following informalities: line 3, "increase" should be changed to --decrease--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8, 10-18, and 20-28, are rejected under 35 U.S.C. 102(b) as being anticipated by Durham (USPN 4,526,558).

Durham discloses in the figure a chain and sprocket drive system comprising a chain and a generally circular sprocket 1 having a plurality of teeth on a periphery thereof and having roots located between adjacent teeth wherein the roots of said sprocket include at least three different root radii as measured from the rotational center of the sprocket the first and second root radii arranged in a pattern effective to redistribute tensions imparted to the chain, reducing maximum

Art Unit: 3682

tension forces exerted on the chain during operation of the system relative to the maximum tension forces in the system where the sprocket is a straight sprocket.¹

There is reason to believe, based on the similarity of material and structure, that the functional limitations of tensions imparted to the chain by the sprocket may be an inherent characteristic of the reference set forth above. (Where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon. In re Best, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977). Accordingly, the burden is placed upon the applicant to prove that those limitations are not an inherent characteristic of the reference.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (USPN 5,876,295) in view of Durham.

Young discloses a noise reducing circular sprocket mounted on a cam shaft.

Young does not show different root radii.

¹ The claim does not specify the parameters of the straight sprocket relative to the random sprocket. If one replaces the sprocket of Durham with a substantially large straight sprocket, the maximum tension in the chain will be substantially larger than that of the maximum tension of the Durham chain.

Durham shows different root radii.

To modify the apparatus of Young so as to provide different root radii would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the teachings of Durham that such an arrangement improves shifting to larger sprockets.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-8, 10-18, 20-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No.

Art Unit: 3682

6,155,943. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are obvious variations of breadth and scope.

Allowable Subject Matter

9. Claims 9, 19, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed February 14, 2005 have been fully considered but they are not persuasive.

The applicant argues that neither the Ledvina nor the Durham reference provide any express or inherent disclosure sufficient to establish anticipation of all the elements of claims 1-19 and 27-31. The applicant incorporates the written description and reiterates that prior art random sprockets used for noise reduction have different chain tensioning characteristics. In view of the objective data and the written description, the applicant has not provided sufficient evidence that the prior art and the instant invention do not exhibit the same functional characteristics.

The Ledvina reference solves the same technical issue with which the instant invention is concerned. Ledvina states that using conventional random sprockets leads to premature fatigue failure in chain rollers. To solve this problem Ledvina provides a random sprocket that exhibits "a noise modulation effect while avoiding the negative effects of high impact from conventional randomized sprockets" (see columns 1 and 2, lines 64-2). In avoiding high impacts Ledvina,

Art Unit: 3682

decreases the overall tension in the chain. Furthermore, the applicant makes a major assumption that the test data provided is the sprocket of Ledvina. In fact, it is more likely that the data illustrates the prior art as described in Ledvina in column 1.

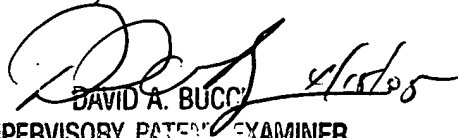
Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hunkert (USPN 6,050,916) and White et al. (USPN 6,213,905).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley J Van Pelt whose telephone number is 571.272.7113. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJVP 


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
TECHNICAL 3600